

Tables

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Table 3 – Hydraulic Conductivity

Boring	K Horslev (cm/sec)	K Bouwer & Rice (cm/sec)	K Geometric Mean (cm/sec)
H-3	6.83E-04	3.82E-04	5.11E-04
	6.33E-04	3.54E-04	4.74E-04
	7.56E-04	4.22E-04	5.65E-04
H-9	1.22E-03	8.21E-04	1.00E-03
	1.33E-03	9.04E-04	1.10E-03
	1.49E-03	9.41E-04	1.18E-03
H-18	9.99E-04	6.40E-04	7.99E-04
	9.84E-04	6.18E-04	7.80E-04
	6.25E-04	4.27E-04	5.16E-04
H-20	3.83E-03	2.24E-03	2.93E-03
	3.85E-03	2.27E-03	2.96E-03
	3.93E-03	2.18E-03	2.93E-03
Geometric Mean	1.32E-03	8.06E-04	1.03E-03

Table 4 – Well Yield

Boring	K Horslev (cm/sec)	K Bouwer & Rice (cm/sec)	K Geometric Mean (cm/sec)	b saturated thickness (ft.)	hc confining head (ft)	Q Estimated Well Yield (gpd)
H-3	6.83E-04	3.82E-04	5.11E-04	8.0	18.46	943
	6.33E-04	3.54E-04	4.74E-04	8.0	18.46	878
	7.56E-04	4.22E-04	5.65E-04	8.0	18.46	1036
H-9	1.22E-03	8.21E-04	1.00E-03	7.0	47.73	4042
	1.33E-03	9.04E-04	1.10E-03	7.0	47.73	4411
	1.49E-03	9.41E-04	1.18E-03	7.0	47.73	4736
H-18	9.99E-04	6.40E-04	7.99E-04	5.7	44.32	2507
	9.84E-04	6.18E-04	7.80E-04	5.7	44.32	2449
	6.25E-04	4.27E-04	5.16E-04	5.7	44.32	1664
H-20	3.83E-03	2.24E-03	2.93E-03	0.50	37.35	731
	3.85E-03	2.27E-03	2.96E-03	0.50	37.35	738
	3.93E-03	2.18E-03	2.93E-03	0.50	37.35	731
Geometric Mean	1.32E-03	8.06E-04	1.03E-03			1605

Table 5 – Total Dissolved Solids (mg/L)

Boring ID	Screened Interval (ft. bgs)	Date	Total Dissolved Solids (mg/L)
H-3	22-27'	06-Mar-20	590
H-32A	20-30'	23-Aug-21	795
H-32B	40-50'	23-Aug-21	1,120
H-33	20-30'	23-Aug-21	1,400
H-34	18-28'	23-Aug-21	995
		Mean	980

Table 6 – Total Dissolved Solids (mg/L) 95UCL

Normal UCL Statistics for Uncensored Full Data Sets	
User Selected Options	
Date/Time of Computation	ProUCL 5.2 10/4/2022 2:41:46 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
TDS (mg/kg)	
General Statistics	
Total Number of Observations	5
	Number of Distinct Observations
	5
Minimum	590
	Number of Missing Observations
	0
Maximum	1400
	Mean
	980
SD	309.3
	Median
	995
Coefficient of Variation	0.316
	SD of logged Data
	0.331
	Skewness
	0.158
 Note: Sample size is small (e.g., <10), if data are collected using incremental sampling methodology (ISM) approach, refer also to ITRC Tech Reg Guide on ISM (ITRC 2020 and ITRC 2012) for additional guidance, but note that ITRC may recommend the t-UCL or the Chebyshev UCL for small sample sizes (n < 7). The Chebyshev UCL often results in gross overestimates of the mean. Refer to the ProUCL 5.2 Technical Guide for a discussion of the Chebyshev UCL.	
 Normal GOF Test	
Shapiro Wilk Test Statistic	0.994
1% Shapiro Wilk Critical Value	0.686
Lilliefors Test Statistic	0.125
1% Lilliefors Critical Value	0.396
Shapiro Wilk GOF Test	
	Data appear Normal at 1% Significance Level
Lilliefors GOF Test	
	Data appear Normal at 1% Significance Level
Data appear Normal at 1% Significance Level	
Note GOF tests may be unreliable for small sample sizes	
 Assuming Normal Distribution	
95% Normal UCL	
95% Student's-t UCL	1275
95% UCLs (Adjusted for Skewness)	
	95% Adjusted-CLT UCL (Chen-1995) 1218
	95% Modified-t UCL (Johnson-1978) 1276
 Suggested UCL to Use	
95% Student's-t UCL	1275

Table 7 – Soil_SSni Exceedances

		SOIL_SSni (mg/kg)	12	550	65
	CAS #	7440-38-2	7440-39-3	NA	
Boring	Depth (ft)	Date	Arsenic (mg/kg)	Barium (mg/kg)	TPH-DRO (mg/kg)
H-1	0-2'	29-Oct-19	7.03	2,940	na
H-1	10-12'	29-Oct-19	12.2	257	na
H-2	0-2'	30-Oct-19	5.47	1,100	na
H-3	0-2'	31-Oct-19	6.70	675	na
H-4	0-2'	4-Nov-19	7.65	4,540	na
H-5	0-2'	4-Nov-19	6.12	4,440	na
H-5	8-10'	4-Nov-19	6.48	758	na
H-5	10-12'	4-Nov-19	8.30	1,940	na
H-6	0-2'	5-Nov-19	4.98	1,030	na
H-7	0-4'	5-Nov-19	5.79	900	na
H-8	0-2'	5-Nov-19	9.46	7,000	na
H-9	0-4'	5-Nov-19	4.80	662	na
H-10	0-2'	6-Nov-19	4.81	752	na
H-10	4-6'	6-Nov-19	7.18	628	na
H-11	0-2'	12-Nov-19	5.89	2,740	na
H-13	0-2'	14-Nov-19	5.34	1,360	na
H-14	0-2'	18-Nov-19	3.40	862	na
H-15	0-2'	19-Nov-19	4.68	1,270	na
H-15	4-6'	19-Nov-19	5.50	772	216
H-15	6-8'	19-Nov-19	6.78	259	291
H-15	8-10'	19-Nov-19	5.22	159	588
H-15	10-12'	19-Nov-19	6.29	97.1	207
H-16	0-2'	20-Nov-19	7.79	4,390	na
H-17	0-2'	20-Nov-19	5.02	987	na
H-17	4-6'	20-Nov-19	4.88	201	556
H-17	6-8'	20-Nov-19	2.76	106	617
H-17	8-10'	20-Nov-19	3.67	140	168
H-17	10-12'	20-Nov-19	9.53	466	92.9
H-18	0-4'	21-Nov-19	7.33	6,390	na
H-19	0-2'	21-Nov-19	5.87	3,750	na
H-22	0-2'	1-Apr-21	3.45	3,130	na
H-24	0-2'	6-Apr-21	2.66	4,180	na
H-27	6-8'	9-Apr-21	5.31	607	na
H-28	0-2'	12-Apr-21	3.81	7,080	na
H-28	6-8'	12-Apr-21	5.21	865	na
H-30	4-6'	12-Apr-21	2.76	553	na
H-4N	0-2'	12-Nov-21	na	2170	na
H-4N2	0-2'	10-Jan-22	na	4020	na
H-4E	0-2'	12-Nov-21	na	3700	na
H-4E2	0-2'	10-Jan-22	na	7290	na
H-4S	0-2'	12-Nov-21	na	891	na
H-4W	0-2'	12-Nov-21	na	6620	na
H-4W2	0-2'	10-Jan-22	na	4270	na
H-8E	0-2'	11-Nov-21	na	803	na
H-8W	0-2'	11-Nov-21	na	2540	na
H-8S	0-2'	11-Nov-21	na	2530	na
H-8S2	0-2'	11-Jan-22	na	838	na
H-8N	0-2'	11-Nov-21	na	3330	na
H-8N2	0-2'	11-Jan-22	na	3000	na
H-11S	0-2'	19-Nov-21	na	659	na
H-11N	0-2'	19-Nov-21	na	2050	na
H-16R	0-2'	15-Nov-21	na	2160	na
H-16N	0-2'	11-Nov-21	na	785	na
H-16W	0-2'	11-Nov-21	na	1760	na
H-18NW	0-2'	3-Dec-21	na	628	na
H-22W	0-2'	11-Nov-21	na	1980	na
H-22S	0-2'	11-Nov-21	na	3050	na
H-22N	0-2'	11-Nov-21	na	1850	na
H-22E	0-2'	11-Nov-21	na	984	na
H-24N	0-2'	12-Nov-21	na	3130	na
H-24E	0-2'	12-Nov-21	na	5890	na
H-24W	0-2'	12-Nov-21	na	4550	na
H-24S	0-2'	11-Nov-21	na	5900	na
H-24NW	0-2'	11-Jan-22	na	3940	na
H-24NE	0-2'	11-Jan-22	na	7410	na
H-24SW	0-2'	11-Jan-22	na	839	na
H-28S	0-2'	11-Nov-21	na	4240	na
H-28SE	0-2'	11-Jan-22	na	1760	na
H-28E	0-2'	11-Nov-21	na	1870	na
H-28N	0-2'	12-Nov-21	na	1670	na
MW-4	0-2'	8-Dec-22	na	830	na
MW-3	0-2'	9-Dec-22	na	2220	na
MW-2	0-2'	9-Dec-22	na	2670	na
MW-10	4-6'	13-Dec-22	na	805	na
H-1SE	0-2'	13-Dec-22	na	1020	na
H-1R	0-2'	13-Dec-22	na	1940	na
H-19NE	0-2'	14-Dec-22	na	2170	na
H-19R	0-2'	14-Dec-22	na	4530	na
H-19SW	0-2'	14-Dec-22	na	3950	na
H-18SW	0-2'	14-Dec-22	na	2020	na

Table 8 – Soil_SSGW

		CoC (mg/kg)	Barium	TPH-DRO
	CAS #	7440-39-3	NA	
	SOIL_SSGW (mg/kg)	2.0E+03	6.5E+01	
H-1	0-2'	29-Oct-19	2,940	na
H-4	0-2'	4-Nov-19	4,540	na
H-5	0-2'	4-Nov-19	4,440	na
H-8	0-2'	5-Nov-19	7,000	na
H-11	0-2'	12-Nov-19	2,740	na
H-15	4-6'	19-Nov-19	772	216
H-15	6-8'	19-Nov-19	259	291
H-15	8-10'	19-Nov-19	159	588
H-15	10-12'	19-Nov-19	97.1	207
H-16	0-2'	20-Nov-19	4,390	na
H-17	4-6'	20-Nov-19	201	556
H-17	6-8'	20-Nov-19	106	617
H-17	8-10'	20-Nov-19	140	168
H-17	10-12'	20-Nov-19	466	92.9
H-18	0-4'	21-Nov-19	6,390	na
H-19	0-2'	21-Nov-19	3,750	na
H-22	0-2'	1-Apr-21	3,130	na
H-24	0-2'	6-Apr-21	4,180	na
H-28	0-2'	12-Apr-21	7,080	na
H-4N	0-2'	12-Nov-21	2170	na
H-4N2	0-2'	10-Jan-22	4020	na
H-4E	0-2'	12-Nov-21	3700	na
H-4E2	0-2'	10-Jan-22	7290	na
H-4W	0-2'	12-Nov-21	6620	na
H-4W2	0-2'	10-Jan-22	4270	na
H-8W	0-2'	11-Nov-21	2540	na
H-8S	0-2'	11-Nov-21	2530	na
H-8N	0-2'	11-Nov-21	3330	na
H-8N2	0-2'	11-Jan-22	3000	na
H-11S	0-2'	19-Nov-21	659	na
H-11N	0-2'	19-Nov-21	2050	na
H-16R	0-2'	15-Nov-21	2160	na
H-16W	0-2'	11-Nov-21	1760	na
H-22S	0-2'	11-Nov-21	3050	na
H-24N	0-2'	12-Nov-21	3130	na
H-24E	0-2'	12-Nov-21	5890	na
H-24W	0-2'	12-Nov-21	4550	na
H-24S	0-2'	11-Nov-21	5900	na
H-24NW	0-2'	11-Jan-22	3940	na
H-24NE	0-2'	11-Jan-22	7410	na
H-28S	0-2'	11-Nov-21	4240	na
MW-3	0-2'	9-Dec-22	2220	na
MW-2	0-2'	9-Dec-22	2670	na
H-19NE	0-2'	14-Dec-22	2170	na
H-19R	0-2'	14-Dec-22	4530	na
H-19SW	0-2'	14-Dec-22	3950	na
H-18SW	0-2'	14-Dec-22	2020	na

Table 9 - GW_SS Exceedances

				Arsenic	Barium	Cadmium	TPH-D	TPH-O	Benzene
Boring ID	Screened Interval (ft. bgs.)	Date	GW_SS	0.010	2	0.0050	0.150	0.150	0.005
H-3	22-27'	06-Mar-20		0.0269	0.192	<0.00500	0.168	<0.121	<0.00500
H-9	50-55'	05-Mar-20		<0.100	0.257	<0.00500	<0.133	<0.123	0.0119
H-12	50-60'	05-Mar-20		<0.100	2.11	<0.0500	<0.127	<0.118	0.0700
H-16	35-40'	06-Mar-20		<0.0100	0.102	0.00750	0.415	0.156	<0.00500
H-18	45-50'	06-Mar-20		<0.0100	0.0707	0.00730	<0.130	<0.120	<0.00500
H-25	38-48'	20-Apr-21		na	na	na	0.359	<0.126	<0.00500
H-27	46-51'	20-Apr-21		na	na	na	0.248	<0.125	<0.00500
H-32A	20-30'	23-Aug-21		<0.00250	0.0795	<0.00500	0.194	<0.120	<0.00500
H-33	20-30'	23-Aug-21		<0.00250	0.0370	<0.00500	0.240	<0.125	<0.00500
MW-9D	40-50'	16-Dec-21		0.00329	0.0648	<0.00500	0.216	0.451	<0.00500

Table 10 – Barium Soilni AOIs

AOI	Boring	Depth (ft)	Barium (mg/kg)
AOI-1	MW-2	0-2'	2670
	MW-3	0-2'	2220
	H-9	0-4'	662
	H-11	0-2'	2,740
	H-11N	0-2'	2050
	H-11S	0-2'	659
	H-12	0-4'	290
	H-8	0-2'	7,000
AOI-2	H-8E	0-2'	803
	H-8W	0-2'	2540
	H-8S	0-2'	2530
	H-8S2	0-2'	838
	H-8N	0-2'	3330
	H-8N2	0-2'	3000
	H-15	0-2'	1,270
	H-15	4-6'	772
	H-15N	0-2'	85.9
	H-15W	0-2'	515
	H-16	0-2'	4,390
	H-16R	0-2'	2160
	H-16N	0-2'	785
	H-16W	0-2'	1760
	H-16E	0-2'	95.5
	H-16S	0-2'	68.8
	H-22	0-2'	3,130
	H-22N	0-2'	1850
	H-22S	0-2'	3050
	H-22E	0-2'	984
	H-22W	0-2'	1980
AOI-3	H-1	0-2'	2,940
	H-1R	0-2'	1940
	H-18	0-4'	6,390
	H-18SW	0-2'	2020
	H-19	0-2'	3,750
	H-19R	0-2'	4530
	H-19NE	0-2'	2170
	H-19SW	0-2'	3950
AOI-4	H-24	0-2'	4,180
	H-24N	0-2'	3130
	H-24E	0-2'	5890
	H-24W	0-2'	4550
	H-24S	0-2'	5900
	H-24NW	0-2'	3940
	H-24NE	0-2'	7410
	H-24SW	0-2'	839
	H-28	0-2'	7,080
	H-28N	0-2'	1670
	H-28S	0-2'	4240
	H-28E	0-2'	1870
	H-28W	0-2'	357
	H-28SE	0-2'	1760
AOI-5	H-5	0-2'	4,440
	H-6	0-2'	1,030
AOI-6	H-4	0-2'	4,540
	H-4N	0-2'	2170
	H-4N2	0-2'	4020
	H-4S	0-2'	891
	H-4E	0-2'	3700
	H-4E2	0-2'	7290
	H-4W	0-2'	6620
	H-4W2	0-2'	4270

Table 11 – Barium 95 UCL AOI Concentrations

	Area (acres)	95 UCL (mg/kg)
AOI-1	7	2378
AOI-2	4.25	2556
AOI-3	1.25	4486
AOI-4	3.34	4847
AOI-5*		
only 2 data points	0.76	2735
AOI-6	4.5	5594

Table 12 – MO-2 Soil_{ni} Exceedances for Barium

		Barium (mg/kg)
		CAS #: 7440-39-3
Boring	Depth (ft. bgs)	3129 SOIL_SSni (mg/kg)
H-4	0-2'	4,540
H-4N2	0-2'	4020
H-4E	0-2'	3700
H-4E2	0-2'	7290
H-4W	0-2'	6620
H-4W2	0-2'	4270
H-5	0-2'	4,440
H-8	0-2'	7,000
H-8N	0-2'	3330
H-16	0-2'	4,390
H-18	0-4'	6,390
H-19	0-2'	3,750
H-19R	0-2'	4530
H-19SW	0-2'	3950
H-22	0-2'	3,130
H-24	0-2'	4,180
H-24N	0-2'	3130
H-24E	0-2'	5890
H-24W	0-2'	4550
H-24S	0-2'	5900
H-24NW	0-2'	3940
H-24NE	0-2'	7410
H-28	0-2'	7,080
H-28S	0-2'	4240

Table 13 – MO-2 Soil_{ni} Exceedances for Arsenic

		Arsenic (mg/kg)
		CAS #: 7440-38-2
Boring	Depth (ft. bgs)	4.69 SOIL_SSNI (mg/kg)
H-1	0-2'	7.03
H-2	0-2'	5.47
H-3	0-2'	6.70
H-4	0-2'	7.65
H-5	0-2'	6.12
H-6	0-2'	4.98
H-7	0-4'	5.79
H-8	0-2'	9.46
H-9	0-4'	4.80
H-10	0-2'	4.81
H-11	0-2'	5.89
H-13	0-2'	5.34
H-15	0-2'	4.68
H-16	0-2'	7.79
H-17	0-2'	5.02
H-18	0-4'	7.33
H-19	0-2'	5.87
H-23	0-2'	5.32

Table 14 – Soil As AOIs

AOI-1 (2.97 acres)	As (mg/kg)	AOI-2 (11.8 acres)	As (mg/kg)	AOI-3 (3.32 acres)	As (mg/kg)	AOI-4 (0.6 acres)	As (mg/kg)	AOI-5 (5.87 acres)	As (mg/kg)
H-9	4.8	H-2	5.47	H-1	7.03	H-5	6.12	H-3	6.7
H-11	5.89	H-7	5.79	H-1R		H-6	4.98	H-4	7.65
H-11-S	na	H-8	9.46	H-17	5.02			H-4S	na
H-13	5.34	H-8N	na	H-18	7.33			H-4W	na
MW-1	na	H-8N2	na	H-18NW	na				
		H-8S	na	H-18SW	na				
		H-8E	na	H-19	5.87				
		H-8W	na	H-19R	na				
		H-10	4.81	H-19SW	na				
		H-15	4.68						
		H-15N	na						
		H-15W	na						
		H-16	7.79						
		H-16R	na						
		H-16N	na						
		H-16S	na						
		H-16E	na						
		H-16W	na						
		H-23	5.32						
95 UCL (mg/kg)	6.3		7.5		7.6		5.6		7.2

Table 15 – S_d Determination

AOI	B site-specific (m)	S_d (m)
AOI-1	2.5	18.4
AOI-2	2.1	11.0
AOI-3	1.6	6.5
AOI-4	0.3	6.9
AOI-5	0.3	4.5
AOI-6	2.4	14.7

Table 16 – Summers Parameters

AOI	I RECAP 2003 (m/yr)	K site-specific (m/yr)	i site-specific (m/m)	D_v site-specific (m/yr)	B site-specific (m)	h_{adv}	α_z	h_{disp}	S_d (m)	S_w site-specific (m)	L site-specific (m)	Summers DF C_t/C_{si}
AOI-1	0.1	315	1.00E-03	0.32	2.5	2.5	0.7	14.8	17.3	158	148	1.05
AOI-2	0.1	315	1.00E-03	0.32	2.1	2.1	0.4	8.7	10.8	162	87	1.08
AOI-3	0.1	315	1.00E-03	0.32	1.6	1.6	0.3	5.1	6.7	150	51	1.10
AOI-4	0.1	315	1.00E-03	0.32	0.3	0.3	0.4	7.1	7.4	97	71	1.01
AOI-5	0.1	315	1.00E-03	0.32	0.3	0.3	0.2	4.2	4.5	72	42	1.02
AOI-6	0.1	315	1.00E-03	0.32	2.4	2.4	0.6	11.8	14.2	129	118	1.06

Table 17 – Domenico DAFs

AOI	C_{si} (mg/L)	x_{POE} (m)	alpha_x (m)	alpha_y (m)	alpha_z (m)	lambda_i (1/day)	Rf_i	D_v (m/yr)	v (D_v/n) (m/yr)	S_w (m)	B (S_d) (m)	C_x (mg/L)	Domenico DAF
AOI-1	16	320	32	11	1.6	0	1	0.32	0.88	157.9	2.5	0.7	24
AOI-2	18	645	65	22	3.2	0	1	0.32	0.88	161.9	2.1	0.17	103
AOI-3	29	439	44	15	2.2	0	1	0.32	0.88	150.0	1.6	0.41	70
AOI-4	37	831	83	28	4.2	0	1	0.32	0.88	97.0	0.3	0.02	1942
AOI-5	19	254	25	8	1.3	0	1	0.32	0.88	72.0	0.3	0.07	255
AOI-6	39	152	15	5	0.8	0	1	0.32	0.88	129.0	2.4	4	9

Table 18

POC	CoC	C_{soil} (mg/kg)	DF_{Summers}	DAF2_{Domenico}
		C_L/C_{si}		
H-3	Arsenic	1.7	1	887
H-12	Barium	289	1	55.0
H-16	Cadmium	0.356	1	124

Table 19

POC	CoC	GW2 (mg/L)	X_{POE} (m)	DAF2	GW2 * DAF2	CC at POC (mg/L)
H-3	Arsenic	0.0100	660	887	8.9	0.03
H-9	Benzene	0.0050	361	27	0.13	0.01
H-12	Barium	2.0000	387	55	110	2.1
H-12	Benzene	0.0050	387	30	0.15	0.07
H-16	Cadmium	0.0050	491	124	0.62	0.01
H-16	TPH-DRO	0.3400	491	124	42	0.42
H-18	Cadmium	0.0050	441	111	0.55	0.01
H-25	TPH-DRO	0.3400	4	1	0.42	0.36

Table 20

AOI	Areas (acres)
Ba AOI-1, As AOI-1	8.11
Ba AOI-2, As AOI-2	12.8
Ba AOI-3, As AOI-3	3.54
Ba AOI-4	3.34
Ba AOI-5, As AOI-4	0.92
Ba AOI-6, As AOI-5	9
Total	37.71